REMARKS

Claims 1 through 22 are pending in the Application.

Claims 1 through 22 have been rejected.

Claim 1 has been amended to correct a typographic error. Particularly, a stray ";" has been removed from claim 1.

Discussion of the rejection under 35 U.S.C. § 102

Examiner rejected claims 1 through 7, 9 through 13, 15 through 20 and 22 under 35 U.S.C. § 102 (e) as being anticipated by USPAN 2003/0060060170 A1 (Tikka). Applicant respectfully traverses the rejection and requests reconsideration.

The criteria for a rejection under 35 U.S.C. § 102 has been clearly defined by the courts and confirmed by the U.S. Patent and Trademark Office. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Examiner has failed to show that each and every element set forth in the claims is found either expressly or inherently in Tikka. Based on this, Applicant is traversing the rejections of the claims.

Below, Applicant points out subject matter within each independent claim that is not disclosed by Tikka. On the basis of this, Applicant believes all the claims are patentable over Tikka.

Discussion of Independent Claim 1

<u>Transmit Segment:</u>

Claim 1 sets out a duplexer that comprises an input/output line, a transmit segment and a receive segment. The transmit segment is connected to the input/output line. This is not disclosed or suggested by Tikka.

Examiner has asserted the paragraph [0053] of Tikka discloses a transmit segment connected to an input/output line. This is an incorrect reading of this paragraph.

Paragraph [0053] of Tikka discusses Figure 5 of Tikka. Figure 5 shows a port 120' connected to a balun 70. Examiner has asserted that port 120' is equivalent to the input/output line of claim 1 of the present case. Examiner has also asserted that balun 70 is equivalent to the receive segment of claim 1 of the present case. Since the only entity with duplexer 102 connected to port 120' is balun 70, it is clear that Figure 5 of Tikka does not disclose or suggest a separate transmit segment being connected to port 120' of duplexer 102. It is very clear then that Tikka does not disclose or suggest a separate receive segment and transmit segment being connected to port 120' of duplexer 102. Thus Figure 5 does not disclose a duplexer that comprises an input/output line,

a transmit segment and a receive segment where the transmit segment is connected to the input/output line, as set out in claim 1 of the present case.

Differential Filter that creates a short between two outputs of a balun:

Claim 1 sets out that the receive segment includes a balun that has a first output and a second output. A differential filter includes resonator elements connected so that at transmit band frequencies of the duplexer, the first output and the second output of the balun are shorted. This is not disclosed or suggested by Tikka.

Examiner has cited Figure 2, the Abstract and paragraphs [0048] and [0052] of Tikka as showing this feature. This is an incorrect reading of Figure 2 and the cited sections of Tikka.

It is very clear that *Tikka does not disclose or suggest that at transmit band frequencies of the duplexer 102, the first output and the second output of the balun 70 are shorted.*

In Tikka, both transmission and reception occurs through balun 70. If during transmit band frequencies of the duplexer 102, the first output and the second output of the balun 70 were shorted, no transmission would be possible through port 120'. This is clearly not what is taught or suggested by Tikka.

It is clear that Examiner's suggested methodology to conform duplexer 102 of Tikka to the subject matter set out in claim 1 would render duplexer

102 completely inoperable. Such an inoperable duplexer is not what is disclosed or suggested by Tikka.

Discussion of Independent Claim 11

Passband transmission through a single-ended filter:

Claim 11 sets out a method for providing filtering within a duplexer.

For signals at the transmit band frequencies, passband transmission is provided through a single-ended filter of the duplexer. This is not disclosed or suggested by Tikka.

Examiner has asserted that this is disclosed by Figure 5 of Tikka. This is an incorrect reading of Figure 5.

Figure 5 does not disclose or suggest use of a single-ended filter. As Tikka makes clear in the Abstract, the passband filters used by Tikka are formed using a differential or balanced topology. This is also clear from Figure 2.

Further, Tikka very specifically teaches against use of a single-ended filter. Tikka argues in paragraph [0004] of the Background that a balanced filter provides better electrical performance than a single ended filter. Therefore, Tikka discloses circuits that utilize balanced filters. With the exception of Figure 1, illustrating prior art, there are no single-ended filters in any of the circuits disclosed by Tikka.

It is clear, therefore, that Figure 5 does not disclose or suggest use of a single-ended filter. In fact, the circuits disclosed by Tikka were purposely designed not to use single-ended filters. This is a fundamental design criteria of the circuits disclosed by Tikka.

Provision of a short circuit:

In claim 11 of the present case, for signals at the transmit band frequencies, a short circuit is provided at a first input and second input of a differential filter. A first input of the differential filter is connected to an input/output line of the duplexer via a balun and a second input of the differential filter is connected to the input/output line of the duplexer via a balun. This is not disclosed or suggested by Tikka.

Examiner has cited Figure 2, the Abstract and paragraphs [0048] and [0052] of Tikka as showing this feature. This is an incorrect reading of Figure 2 and the cited sections of Tikka.

It is very clear that Tikka does not disclose or suggest that at transmit band frequencies of the duplexer 102, the first output and the second output of the balun 70 are shorted by outputs of passband filter 10 or passband filter 10'.

In Tikka, both transmission and reception occurs through balun 70. If during transmit band frequencies of the duplexer 102, the first output and the

second output of the balun 70 were shorted, no transmission would be possible

through port 120'. This is clearly not what is taught or suggested by Tikka.

It is clear that Examiner's suggested methodology to conform duplexer

102 of Tikka to the subject matter set out in claim 11 would render duplexer

102 completely inoperable. Such an inoperable duplexer is not what is

disclosed or suggested by Tikka.

Discussion of Independent Claim 16

Transmit Segment:

Claim 16 sets out a duplexer that comprises an input/output line, a

transmit segment and a receive segment. The transmit segment is connected

to the input/output line. This is not disclosed or suggested by Tikka.

Examiner has asserted the paragraph [0053] of Tikka discloses a

transmit segment connected to an input/output line. This is an incorrect

reading of this paragraph.

Paragraph [0053] of Tikka discusses Figure 5 of Tikka. Figure 5 shows a

port 120' connected to a balun 70. Examiner has asserted that port 120' is

equivalent to the input/output line of claim 1 of the present case. Examiner

has also asserted that balun 70 is equivalent to the receive segment of claim 1

of the present case. Since the only entity with duplexer 102 connected to port

120' is balun 70, it is clear that Figure 5 of Tikka does not disclose or suggest a

separate transmit segment being connected to port 120' of duplexer 102. It is

very clear then that Tikka does not disclose or suggest a receive segment and a separate transmit segment being connected to port 120' of duplexer 102. Thus Figure 5 does not disclose a duplexer that comprises an input/output line, a transmit segment and a receive segment where the transmit segment is connected to the input/output line, as set out in claim 16 the present case.

Differential Filter that creates a short between two outputs of a balun:

Claim 1 sets out that the receive segment includes a balun that has a first output and a second output. A differential filter shorts the first output and the second output of the balun at transmit band frequencies of the duplexer. This is not disclosed or suggested by Tikka.

Examiner has cited Figure 2, the Abstract and paragraphs [0048] and [0052] of Tikka as showing this feature. This is an incorrect reading of Figure 2 and the cited sections of Tikka.

It is very clear that *Tikka does not disclose or suggest that at transmit band frequencies of the duplexer 102, the first output and the second output of the balun 70 are shorted.*

In Tikka, both transmission and reception occurs through balun 70. If during transmit band frequencies of the duplexer 102, the first output and the second output of the balun 70 were shorted, no transmission would be possible through port 120'. This is clearly not what is taught or suggested by Tikka.

It is clear that Examiner's suggested methodology to conform duplexer 102 of Tikka to the subject matter set out in claim 16 would render duplexer 102 completely inoperable. Such an inoperable duplexer is not what is disclosed or suggested by Tikka.
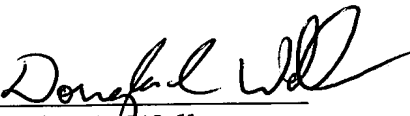
Discussion of the rejection under 35 U.S.C. § 103

Examiner has rejected claims 8, 14 and 21 under 35 U.S.C. § 103 (a) as being unpatentable over Tikka in view of USPN 5,818,385 (Bartholomew). Applicant believes claims 8, 14 and 21 are patentable based on patentability of the underlying independent claims.

Conclusion

Applicant believes this Amendment has placed the present application in condition for allowance and favorable action is respectfully requested.

Respectfully submitted,
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